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ABSTRACT

A list is presented of science buildings at institutions of higher education; buildings are identified by name as reported by the institution, and dates of initial occupancy are shown. A table is included showing regional distribution of instructional laboratories in the science buildings reported--(1) by number and size, (2) by capacity in student stations, and (3) by student station sizes. A bibliography on science facilities planning is also included. (FS)



College and University Physical Facilities Series



U. S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
Office of Education

March 1964

OE-51004-2A

SCIENCE FACILITIES PLANNING AIDS

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Through the "Inventory of College and University Physical Facilities, December 31, 1957" (part 3 of a 5-part survey^{1/} and now in process), several listings of institutional buildings reported as occupied for the first time in the calendar decade 1948-57 were compiled. Since requests for such information from higher education institutions indicate that interest in construction is great in the category of science buildings, this release presents the science building listing (list A), which follows. Buildings are identified by name as reported by the institution, and dates of initial occupancy are shown. Other listings of buildings will be offered through this series. (See table 1 of OE-51004-1, Inventory of Higher Education Physical Facilities, for Inventory response data by State; 84.9 percent of the institutions in the aggregate United States participated, representing 95.5 percent of the fall 1957 enrollment.)

Table 1 shows regional distribution, for the contiguous States, of instructional laboratories situated in the science buildings reported in list A: (1) by number and size, (2) by capacity in student stations, and (3) by student station sizes. The assignable area of an instructional laboratory includes not only the laboratory itself but also any auxiliary space devoted exclusively to the functions

of the laboratory. Assignable area is measured from the inside walls at floor level. A student station is considered to be a place at which a student may be located--for example, a laboratory table or a lecture-room seat. The area of a laboratory student station is therefore the assignable area required to provide all accommodations necessary for one student.

A bibliography on science facilities planning is included as list B.

The Physical Facilities Series is designed to present, as it becomes available, preliminary and other information concerning college and university physical facilities. A separate Finance Series presents information on matters related to higher education finance. Data can thus be disseminated prior to publication of the complete report.

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^{1/} Part 3 of a 5-part study by the Office of Education, Col-
lege and University Facilities Survey.

Table 1.--Number, assignable area, laboratory size, laboratory capacity, and student station size of instructional laboratories in science buildings^{1/} reported to have been constructed during the 1948-57 calendar decade by higher education institutions participating in the College and University Facilities Survey, Part 3, as of December 31, 1957, by region: Contiguous States

| Instructional laboratories | Contiguous States | R e g i o n | | | |
|---|-------------------|-------------------------|-----------------------------|---------------------|--------------------|
| | | Northeast ^{2/} | North Central ^{3/} | South ^{4/} | West ^{5/} |
| a. Number of laboratories..... | 2,729 | 431 | 648 | 1,051 | 599 |
| b. Total assignable area (sq.ft.) ^{6/} | 2,532,400 | 430,800 | 579,600 | 918,500 | 603,500 |
| c. Number of student stations..... | 63,341 | 9,065 | 15,446 | 24,497 | 14,333 |
| LABORATORY SIZE (sq.ft.) | | | | | |
| d. Mean (line b ÷ line a)..... | 928 | 1,000 | 894 | 874 | 1,008 |
| e. Median..... | 873 | 885 | 849 | 805 | 983 |
| f. Interquartile range..... | 686-1,098 | 782-1,220 | 668-1,076 | 652-948 | 777-1,198 |
| LABORATORY CAPACITY (student stations) | | | | | |
| g. Mean (line c ÷ line a)..... | 23 | 21 | 24 | 23 | 24 |
| h. Median..... | 22 | 20 | 21 | 22 | 24 |
| i. Interquartile range..... | 16-27 | 14-26 | 13-25 | 17-27 | 16-27 |
| STUDENT STATION SIZE (sq.ft.) | | | | | |
| j. Mean (line b ÷ line c)..... | 40.0 | 47.5 | 37.5 | 37.5 | 42.1 |
| k. Median..... | 42.0 | 48.1 | 42.1 | 39.9 | 46.7 |
| l. Interquartile range..... | 33.5-52.1 | 34.9-70.8 | 33.8-54.8 | 32.1-44.7 | 34.8-53.1 |

^{1/} Exclusive of 14 science buildings for which incomplete data were received.

^{2/} Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont.

^{3/} Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, Wisconsin.

^{4/} Alabama, Arkansas, Delaware, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, West Virginia, District of Columbia.

^{5/} Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, Wyoming.

^{6/} Includes all of the auxiliary space devoted to the functions of the laboratory.

**List A.--Science Buildings Reported To Have Been Occupied for the First Time
During the 1948-57 Calendar Decade. Aggregate United States**

Note: Code numbers in parentheses indicate type of research for which facilities are included:
31, astronomy; 32, biology; 33, chemistry; 35, physics; 36, other physical sciences.

| <u>State and institution</u> | <u>Name of building</u> | <u>Year</u> |
|--|---|-------------|
| Alabama | | |
| Athens College | Waters Hall (32) | 1957 |
| Auburn University | Animal Disease Research Laboratory (32) | 1955 |
| | Burke Dairy Laboratory (32) | 1952 |
| | Coccidiosis Laboratory (32) | 1952 |
| Howard College | Biology Building | 1957 |
| The Marion Institute | Chemistry Building | 1953 |
| Spring Hill College | Chemistry Building | 1957 |
| Tuskegee Institute | Carver Laboratories (33) | 1950 |
| University of Alabama | Physics Building | 1949 |
| University of Alabama, Medical Center | Basic Science Building | 1951 |
| Arizona | | |
| Arizona State College, Flagstaff | Science Building | 1949 |
| Arizona State University | Science Building | 1950 |
| Eastern Arizona Junior College | Science Building | 1955 |
| University of Arizona | Biological Science (32) | 1956 |
| Arkansas | | |
| Agricultural, Mechanical and Normal College | Science Building | 1950 |
| John Brown University | Science Hall | 1957 |
| Ouachita Baptist College | Science Building | 1951 |
| Philander Smith College | Science Hall (35) | 1952 |
| University of Arkansas | Physical Science Laboratory (36) | 1951 |
| California | | |
| Bakersfield College | Science and Engineering Building | 1955 |
| California State Polytechnic College | Science Building | 1956 |
| | Science and Classrooms | 1955 |
| Citrus Junior College | Chemistry Building | 1953 |
| Claremont Graduate School | Baxter Science Laboratories | 1953 |
| Coalinga College | Geology and Biology Building | 1957 |
| | Physics and Chemistry Building | 1957 |
| College of Marin | Science Building | 1949 |
| El Camino College | Chemistry Building | 1955 |
| | Life Science Building | 1951 |
| | Physics Building | 1955 |
| Fresno State College | Science Building-Wing C, D, E, F | 1955 |
| Fullerton Junior College | Science Building | 1955 |
| Humboldt State College | Science Building | 1953 |
| Long Beach City College | Life Science Building | 1951 |
| Long Beach State College | Science Building #2 | 1956 |
| Los Angeles Pierce College | Anatomy, Micro Biology Building | 1955 |
| Monterey Peninsula College | Science Building | 1948 |
| Mount San Antonio College | Life Science Building | 1953 |
| | Physical Science Building | 1949 |
| Oceanside-Carlsbad College | Science Building | 1956 |
| Orange Coast College | Science Building | 1957 |
| Pacific Union College | Chemistry Building | 1950 |
| Reedley College | Science Building-Wing #2 | 1957 |
| Sacramento State College | Chemistry Building | 1953 |
| | Life Science Building | 1957 |
| | Physical Science Building | 1953 |
| | Physics Building | 1953 |
| San Diego State College | Physics Building | 1953 |
| San Francisco State College | Science Building | 1952 |
| Shasta College | Science Building | 1950 |
| Stanford University | Electronics Research (35) | 1951 |
| | High Energy Laboratory (35) | 1949 |
| | Microwave Laboratory (35) | 1949 |
| | Organic Research Laboratory (35) | 1949 |
| | Physics Lecture Hall | 1957 |
| University of California, Berkeley Campus | Building HHSE 6 (32) | 1950 |
| | LT Laboratory (33) | 1954 |
| | BV Laboratory (32) | 1952 |
| | Building GHSE 11 (32) | 1950 |
| | Building GHSE 12 (32) | 1950 |
| University of California, Los Angeles Campus | Geology-Chemistry Building | 1952 |

| <u>State and institution</u> | <u>Name of building</u> | <u>Year</u> |
|--|--|-------------|
| <u>California--con.</u> | | |
| University of California, Los Angeles Campus--con. | Life Science Building | 1955 |
| | Life Science-Plant Pathology Building | 1950 |
| University of Redlands | Hornby Hall | 1957 |
| University of Southern California | Aeronautics Building (36) | 1948 |
| | Bacteriology Building (32) | 1948 |
| | Chemical Building Wing | 1950 |
| | Navy Research Building (36) | 1948 |
| | Tlargi (33) | 1955 |
| Ventura College | Biology Building V | 1955 |
| | Chemistry Building Unit M | 1955 |
| <u>Colorado</u> | | |
| University of Colorado | Isotopes Laboratory | 1949 |
| | Lester (Physics) Building | 1950 |
| University of Denver | Building Dri-5 (33) | 1948 |
| <u>Connecticut</u> | | |
| Connecticut College | Hale Laboratory (33) | 1954 |
| University of Connecticut, Hartford | Science Building | 1953 |
| Yale University | Accelerator Building #1 (35) | 1953 |
| | Accelerator Building #2 (35) | 1955 |
| | Biological Laboratory (32) | 1951 |
| | Gibbs Laboratory (36) | 1955 |
| | Observatory-Bethany (31) | 1957 |
| <u>Delaware</u> | | |
| University of Delaware, Lewes | Bayside Marine Biological Laboratory (2 buildings) | 1954 |
| <u>District of Columbia</u> | | |
| Howard University | Biology-Greenhouse Building | 1956 |
| <u>Florida</u> | | |
| Chipola Junior College | Natural Science Building | 1957 |
| Florida Agricultural and Mechanical University | Jones Hall | 1955 |
| Pensacola Junior College | Science Building | 1957 |
| St. Petersburg Junior College | Science Building | 1956 |
| University of Miami | Agassiz (Virginia Key) (36) | 1953 |
| | Marine Laboratory (Main Building) (36) | 1956 |
| <u>Georgia</u> | | |
| Abraham Baldwin Agricultural College | Science Building | 1954 |
| Agnes Scott College | Bradley Observatory | 1949 |
| | Campbell Science Hall | 1951 |
| Albany State College | Science Building | 1954 |
| Atlanta University | Chemistry Building | 1953 |
| Emory University | Biology Building | 1950 |
| | Biology Greenhouse (32) | 1955 |
| | Geology Building | 1950 |
| Middle Georgia College | Science Building | 1948 |
| Morehouse College | Chemistry Building | 1953 |
| North Georgia College | Science Hall | 1948 |
| <u>Hawaii</u> | | |
| University of Hawaii | Chemistry Hall (Bilger Hall) | 1952 |
| <u>Illinois</u> | | |
| Blackburn College | F. W. Olin Science Building | 1957 |
| Millikin University | Scoville Science Hall | 1953 |
| Northern Illinois University | Science Building | 1950 |
| St. Xavier College | Science Building #4 | 1956 |
| Southern Illinois University | Life Science Building | 1954 |
| | Life Science Animal House (36) | 1954 |
| | Life Science Greenhouses (36) | 1951 |
| University of Chicago | Accelerator Building (35) | 1949 |
| | Low Temperature Laboratory (35) | 1957 |
| | Research Institutes Building | 1950 |
| University of Illinois | East Chemistry Building | 1950 |
| Western Illinois University | Science Hall | 1953 |
| <u>Indiana</u> | | |
| Indiana University, Bloomington Campus | Cosmic Ray Laboratory (35) | 1956 |
| | Geology Shop (35) | 1956 |
| | Jordan Hall (32) | 1955 |
| | Radioactive Isotope Laboratory (33) | 1951 |

| <u>State and institution</u> | <u>Name of Building</u> | <u>Year</u> |
|--|---|-------------|
| <u>Indiana--con.</u> | | |
| Indiana University, Indianapolis Medical Campus | Laboratory Science Building | 1951 |
| St. Mary's College | St. Mary's Science Hall | 1954 |
| University of Notre Dame | Biology Greenhouse (32) | 1950 |
| | Lobund (32) | 1949 |
| | Nieuwland Science Building | 1953 |
| <u>Iowa</u> | | |
| Drake University | Harvey-Ingham Science Building | 1949 |
| Graceland College | Science Hall | 1954 |
| Grinnell College | Science Hall | 1952 |
| Morningside College | Jones Hall of Science | 1948 |
| | O'Donoghue Observatory | 1951 |
| Simpson College | Carver Science Hall | 1956 |
| <u>Kansas</u> | | |
| Bethany College | Nelson Science Hall | 1957 |
| College of Emporia | Mabee Science Hall | 1957 |
| Kansas State University of Agriculture and Applied Science | Bushnell Hall (32) | 1949 |
| Southwestern College | Mossman Hall of Science | 1951 |
| University of Kansas | Malott Hall (33) | 1954 |
| | Radioactive Isotope Research Laboratory | 1951 |
| <u>Kentucky</u> | | |
| Bellarmino College | Science Building | 1950 |
| Bethel College | Science Building | 1948 |
| Murray State College | Science Building | 1950 |
| <u>Louisiana</u> | | |
| Centenary College | Science Hall | 1949 |
| McNeese State College | Science Building | 1956 |
| Xavier University | Science Building | 1948 |
| <u>Maine</u> | | |
| Bowdoin College | Parker Cleaveland Hall (33) | 1952 |
| Colby College | Chemistry Building (33) | 1950 |
| | Life Science Building | 1952 |
| <u>Maryland</u> | | |
| Hood College | Lillian Brown Hodson Science Hall | 1957 |
| University of Maryland | Chemistry Building | 1951 |
| | Engine Research Laboratory (35) | 1955 |
| <u>Massachusetts</u> | | |
| Amherst College | Biology Greenhouse (32) | 1952 |
| Bradford Durfee College of Technology | Leslie B. Coombs Science Hall | 1952 |
| Brandeis University | Kalman Science Building #65 (33) | 1956 |
| Emmanuel College | Science Building | 1950 |
| Harvard University | Gordon McKay Laboratory of Applied Science (35) | 1952 |
| Mount Holyoke College | Cleveland Hall and Carr Laboratories | 1954 |
| Smith College | Research Greenhouse (36) | 1952 |
| University of Massachusetts | Animal Isolation Building (32) | 1951 |
| | Chemistry Laboratory Addition (33) | 1957 |
| | Elm Disease Control Laboratory (32) | 1948 |
| | Paige Laboratory (32) | 1949 |
| <u>Michigan</u> | | |
| Ferris Institute | Science Building | 1955 |
| Flint Junior College | Mott Arts and Science | 1955 |
| Henry Ford Community College | Science Building | 1955 |
| Kalamazoo College | Upton Science Hall | 1956 |
| Michigan College of Mining and Technology | Civil and Geology Building | 1957 |
| Michigan State University of Agriculture and Applied Science | Experimental Animal House (32) | 1940 |
| | Physics and Mathematics Building | 1949 |
| | Natural Science Building | 1948 |
| <u>Minnesota</u> | | |
| Hamline University | Drew Science Building | 1951 |
| St. Mary's College | Science Building | 1954 |
| University of Minnesota, Duluth Branch | Science Building | 1950 |
| | Seismograph Building (35) | 1953 |
| <u>Mississippi</u> | | |
| Itawamba Junior College | Science Building | 1957 |

| <u>State and institution</u> | <u>Name of building</u> | <u>Year</u> |
|--|--|-------------|
| <u>Mississippi--con.</u> | | |
| Jackson State College | Science Building | 1956 |
| Mississippi State College for Women | Hooper Science Hall | 1955 |
| Mississippi State University | Chemical Engineering Building | 1956 |
| Tougaloo Southern Christian College | Chemistry Building | 1948 |
| <u>Missouri</u> | | |
| Hannibal-LaGrange College | Muir Science Hall | 1949 |
| Northeast Missouri State Teachers College | Science Hall (32) | 1955 |
| St. Louis University | Carr Lane Building | 1955 |
| University of Missouri, Columbia | Schlundt Hall Annex | 1950 |
| Washington University | Louderman Hall (33) | 1951 |
| Westminster College | Biology Building | 1948 |
| <u>Montana</u> | | |
| Carroll College | Science Building | 1957 |
| Eastern Montana College of Education | Science Building | 1948 |
| Montana School of Mines | Physics-Petroleum Building | 1953 |
| Montana State College | Isotope Laboratory (35) | 1953 |
| <u>Nebraska</u> | | |
| Creighton University | Chemistry Building | 1949 |
| Hastings College | Science Hall | 1955 |
| University of Nebraska | Botany Greenhouse (32) | 1950 |
| <u>New Jersey</u> | | |
| Fairleigh Dickinson University, Teaneck Campus | Science (and Dental) Building | 1956 |
| Princeton University | Building A-Matterhorn Laboratory (35) | 1951 |
| Rutgers, The State University | Microbiology (32) | 1953 |
| Seton Hall University, South Orange | Science Building | 1953 |
| Shelton College | Science Building | 1953 |
| <u>New Mexico</u> | | |
| Eastern New Mexico University | Science Building | 1949 |
| New Mexico Highlands University | Science Hall | 1956 |
| New Mexico State University of Agriculture, Engineering and Science | Chemistry Building | 1956 |
| | Insectary (32) | 1950 |
| | Physical Science Laboratory Annex (35) | 1949 |
| New Mexico Western College | Science Building | 1957 |
| University of New Mexico | Biology Building | 1951 |
| | Chemistry Building | 1952 |
| | Geology Building | 1953 |
| | Physics-Meteoritics Building (35) | 1952 |
| | Research Center (36) | 1948 |
| <u>New York</u> | | |
| Broome Technical Community College | Science Building | 1957 |
| City College of The City University of New York | Chemical Engineering Building | 1949 |
| Clarkson College of Technology | Physics Building | 1949 |
| Columbia University | Pegram Laboratory (35) | 1955 |
| Cornell University | Ornithology Laboratory (32) | 1956 |
| LeMoyne College | Science Building | 1948 |
| Manhattan College | Hayden Science Hall | 1953 |
| Rensselaer Polytechnic Institute | Blaw-Knox I and II (35) | 1948 |
| | Sampson Lodge (31) | 1956 |
| | Lubin Hall | 1955 |
| Syracuse University | Carbon Research Building (36) | 1957 |
| University of Buffalo | Cyclotron Building (35) | 1948 |
| University of Rochester | | |
| <u>North Carolina</u> | | |
| Agricultural and Technical College of North Carolina | Hines Hall (33) | 1950 |
| Atlantic Christian College | Moye Science Hall | 1956 |
| Chowan College | Green Science Building | 1956 |
| Duke University | Physics Building | 1950 |
| Elizabeth City State Teachers College | Science Hall | 1952 |
| North Carolina College at Durham | Biology Building | 1956 |
| State College of Agriculture and Engineering of the University of North Carolina | Robertson Pulp and Paper Laboratory (33) | 1956 |
| Wake Forest College | Science Building (33) | 1956 |
| <u>Ohio</u> | | |
| Central State College | Banneker Science Building | 1950 |
| The Ohio State University | Physics Building | 1951 |

| <u>State and institution</u> | <u>Name of building</u> | <u>Year</u> |
|--|---|-------------|
| <u>Oklahoma</u> | | |
| Bethany-Nazarene College | Science Hall | 1950 |
| Northeastern State College | Science Building | 1956 |
| Phillips University | Science Hall | 1949 |
| University of Oklahoma, Norman | Gould Hall (Geology) | 1951 |
| | Insectary (32) | 1953 |
| | Plant Science Greenhouse (32) | 1952 |
| | Research Institute | 1948 |
| The University of Tulsa | Petroleum Science Building | 1950 |
| <u>Oregon</u> | | |
| Oregon State College | Cyclotron Building | 1949 |
| Reed College | Chemistry Building | 1948 |
| University of Oregon, Eugene | Science Hall | 1949 |
| <u>Pennsylvania</u> | | |
| Bucknell University | Olin Science Building | 1955 |
| College Misericordia | Hafey Memorial Science Hall | 1956 |
| Drexel Institute of Technology | Basic Science Building | 1956 |
| Duquesne University | Graduate Chemistry Building | 1948 |
| Gwynedd-Mercy Junior College | Science Laboratory | 1951 |
| Hahnemann Medical College and Hospital | Mary Bailey Foundation | 1955 |
| Lafayette College | Olin Hall of Science | 1956 |
| Lock Haven State College | Ulmer Hall | 1952 |
| Lycoming College | Science Building | 1957 |
| Mansfield State College | Science Building | 1949 |
| Pennsylvania State University | Mineral Science | 1949 |
| | Nittany Heat and Stoker Laboratory (36) | 1948 |
| Rosemont College | Science Hall | 1951 |
| University of Pennsylvania | Betatron Laboratory Building (35) | 1948 |
| | Physical Sciences Building (35) | 1952 |
| University of Pittsburgh | Clapp Hall | 1957 |
| University of Scranton | Loyola Hall of Science | 1956 |
| Wilkes College | Stark Hall | 1957 |
| <u>Puerto Rico</u> | | |
| University of Puerto Rico | Natural Science Building | 1949 |
| <u>Rhode Island</u> | | |
| Brown University | Engineering Research Laboratory (35) | 1948 |
| University of Rhode Island | Pastore Laboratory | 1952 |
| <u>South Carolina</u> | | |
| Clemson Agricultural College | Chemistry Building | 1952 |
| Coker College | William Chambers Coker Science Building | 1951 |
| Erskine College | Reid Science Hall | 1949 |
| <u>Tennessee</u> | | |
| Knoxville College | A. K. Stewart Science Hall | 1957 |
| <u>Texas</u> | | |
| Agricultural and Mechanical College of Texas | Agronomy Field Laboratory (36) | 1952 |
| | Biological Science Building | 1950 |
| | Entomology Laboratory (36) | 1950 |
| | Horticulture Greenhouse (36) | 1955 |
| | Biochemistry Laboratory (32) | 1957 |
| Howard County Junior College | Science Building I | 1951 |
| | Science Building II | 1957 |
| Huston-Tillotson College | Science Building | 1955 |
| Incarnate Word College | Science Hall | 1949 |
| Lamar State College of Technology | Biology-Geology Building | 1957 |
| Midwestern University | Geology Building | 1949 |
| Odessa College | Science Building | 1949 |
| St. Mary's University of San Antonio | Garni Science Building | 1952 |
| San Antonio College | Science Building | 1953 |
| Southern Methodist University | Fondren Science Building | 1949 |
| Southwestern University | Fondren Science Hall | 1954 |
| Texas Christian University | Science Building | 1952 |
| Texas Technological College | Science Building | 1951 |
| Texas Western College | Science Building | 1950 |
| Trinity University | Science Building | 1953 |
| University of Dallas | Science Building | 1956 |
| University of St. Thomas | Science Building | 1948 |

| <u>State and institution</u> | <u>Name of building</u> | <u>Year</u> |
|--|---------------------------------------|-------------|
| <u>Texas--con.</u> | | |
| University of Texas, Austin | Balcones Research Center | |
| | Alloy Plant (32) | 1949 |
| | Carbonation (36) | 1949 |
| | Dolomite Service (36) | 1949 |
| | Mag. Cells (32) | 1949 |
| | Mag. Cells Service (32) | 1949 |
| | Rectifier and Switch-Gear (35) | 1949 |
| | Defense Research Laboratory (36) | 1949 |
| | Experimental Science Building | 1952 |
| | Science Building | 1953 |
| Wayland Baptist College | | |
| <u>Utah</u> | | |
| Brigham Young University | Eyring Science Center | 1950 |
| Utah State University of Agriculture and Applied Science | Research Shop (36) | 1951 |
| Weber College | Life Science Building | 1952 |
| | Physical Science | 1952 |
| Westminster College | Science Hall | 1949 |
| <u>Vermont</u> | | |
| Norwich University | Cabot Science Hall | 1952 |
| State Teachers College, Castleton | Science Building | 1954 |
| <u>Virginia</u> | | |
| Bridgewater College | Bowman Hall | 1952 |
| Emory and Henry College | Science Building | 1956 |
| Longwood College | Greenhouse (32) | 1951 |
| | Stevens Hall | 1951 |
| Madison College | Burruss Science Hall and Greenhouse | 1953 |
| Richmond Professional Institute | Science Building | 1950 |
| University of Virginia | Physics Building | 1953 |
| | State Geological Survey Building (36) | 1950 |
| <u>Washington</u> | | |
| Grays Harbor College | Science Building | 1957 |
| Olympic College | Science Building | 1954 |
| Walla Walla College | Biology Building | 1948 |
| <u>West Virginia</u> | | |
| Concord College | Science Hall | 1951 |
| Marshall University | Science Building | 1951 |
| Potomac State College of West Virginia University | Science Hall | 1949 |
| West Virginia State College | Science Building | 1952 |
| West Virginia University | Brooks Hall (35) | 1950 |
| | Physics Building | 1952 |
| <u>Wisconsin</u> | | |
| Edgewood College of the Sacred Heart | Mazzuchelli Science Building | 1955 |
| The Institute of Paper Chemistry | General Activities Building (36) | 1954 |
| | Genetics Building (32) | 1954 |
| Marquette University | Science Annex (32) | 1950 |
| University of Wisconsin, Madison | Bacteriology Building | 1954 |
| | Chemical Engineering Building | 1951 |
| | Enzyme Institute (32) | 1949 |
| | Genetics Research Laboratory (32) | 1957 |

List B.--Science Facilities Planning Bibliography

1. AEC Central Research Laboratory. In Buildings for Research. New York: F. W. Dodge Corporation, 1958. p. 43-48.
2. Alexander, Robert E. Designing for Science at Orange Coast College. American School and University, 31:77-84, 1959-1960.
3. _____. Science: Facility Design. In New Dimensions in Junior College Planning. Stanford, Calif.: School Planning Laboratory, School of Education, Stanford University, 1958. p. 90-97.
4. Allen, C. J. Lab Hoods Rid Fumes, Exhaust Building in New Life Sciences Research Center. Heat Piping and Air Conditioning, 34:11, 107-112, November 1962.
5. Bardwell, E. P. Lighting the Laboratory Table. College and University Business, 24:6, 42-43, June 1958.
6. Barrett, J. C. Design Techniques for Ventilating Research Labs. Air Engineering, 4:1, 31-36, January 1962.
7. Bilger, L. N., and E. M. Bilger. New Chemical Laboratory of the University of Hawaii. Journal of Chemical Education, 31:300-302, June 1954.
8. Bogne, Olaf. Science Building for Small College and Theological Seminary. College and University Business, 8:3, 37-39, March 1950.
9. Braestrup, Carl B., and Edith Quimby. Hospital Radioisotope Laboratories. Progressive Architecture, 33:84-87, December 1952.
10. Braidech, Mathew M. How to Keep Bulk Chemicals from Becoming Fire Hazards. College and University Business, 32:2, 59-61, February 1962.
11. Brazier, Bernis E., and Elisabeth Kendall Thompson. Laboratories for Radioactive Research. In Buildings for Research. New York: F. W. Dodge Corporation, 1958. p. 28-35.
12. Brewster, R. Q., and J. D. Stranathan. Science Building at the University of Kansas. American School and University, 26:373, 1954-1955.
13. Broadfoot, Albert. Problems Which Must Be Solved in Designing Science and Music Facilities for Community Junior Colleges. In Proceedings: Conference on Junior College Facilities. Tallahassee, Fla.: State Department of Education, 1959. p. 36-38.
14. Browne, W. Chester. Planning for the Atomic Age. College and University Business, 28:2, 42-45, February 1960.
15. Buildings for Research. New York: F. W. Dodge Corporation, 1958. 224 p.
16. Burford, W. R. Science Building. Cotati, Calif.: Sonoma State College, October 1961. 72 p.
17. Butler, John H. How to Put the Squeeze on Teaching Lab Cost. College and University Business, 31:2, 39-40, August 1961.
18. Carmichael, O. C., Jr. Laboratory for Research in Radioactivity. College and University Business, 22:4, 48-50, April 1957.

19. Carpenter, C. R. That's Teaching by TV. College and University Business, 24:3, 45-46, March 1958.
20. Chemical Engineering Building, University of Minnesota. Architectural Record, 109:5, 126-131, May 1951.
21. Chemical Engineering Building, University of Minnesota. In Buildings for Research. New York: F. W. Dodge Corporation, 1958. p. 162-167.
22. Cochran, F. Lee. Science Centers Take Shape in Many Forms. College and University Business, 34:6, 45-47, June 1963.
23. Cocking, Walter D. Educational Planning of College Plants. American School and University, 29:111-120, 1957-1958.
24. Coleman, H. S., ed. Laboratory Design. New York: Reinhold Publishing Corporation, 1951. 393 p.
25. Construction Problems of an Atomic Lab. In Buildings for Research. New York: F. W. Dodge Corporation, 1958. p. 36.
26. Control and Removal of Radioactive Contamination in Laboratories and Hospitals, Handbook 48. Washington: National Bureau of Standards, December 15, 1951. 24 p.
27. Cornell, Francis G., and Edwin B. Cromwell. For Science Facilities Planning Becomes Crucial. College and University Business, 30:2, 52-55, February 1961.
28. Davidson, Philip. University of Louisville Erects Building for the Natural Sciences. College and University Business, 13:1, 41-43, July 1952.
29. DeBernardis, Amo, and others. Television Facilities. In Planning Schools for New Media. Portland, Ore.: Division of Education, Portland State College, 1961. p. 59-65.
30. DeMonte, Louis A. Low-Cost, Low-Maintenance Domes Were "Dropped" From the Sky. College and University Business, 34:2, 72, February 1963.
31. The Design of Research Laboratories. London, Eng.: Division for Architectural Studies of the Nuffield Foundation, Oxford University Press, 1961. 211 p.
32. Dickinson, B. H., and Robert H. Noble. The Physics-Mathematics Building at Michigan State College. American Journal of Physics, 18:378-385, September 1950.
33. Digest of a Restudy of the Needs of California in Higher Education. Berkeley: The University of California Printing Department, 1955. p. 85-87.
34. Educational Specifications for the College Heights Campus. San Mateo, Calif.: College of San Mateo, June 1958. p. 26-28, 99-115.
35. Electronics Research Laboratory. Architectural Record, 132:5, 180-182, November 1962.
36. Equipment Needs and Floor Layouts for the New Engineering and Science Building. Fort Wayne, Ind.: Indiana Technical College, 1956. 49 p.
37. First, M. W. New Techniques in Laboratory Ventilation. Air Engineering, 1:5, 27-31, August 1959.
38. Fitch, J. M. Building of Rugged Fundamentals; University of Pennsylvania Richards-Medical Research Building. Architectural Forum, 113:82-87+, July 1960.

39. Forrester, J. D. New Geology Building at University of Arizona. American School and University, 32:105-108, 1960-1961.
40. Fox, Gertrude (compiler). Design of Laboratory Facilities: A Classified List of Selected References, 1947-1962. Bethesda, Md.: Research Facilities Planning Branch, Division of Research Services, National Institutes of Health, Public Health Service, U.S. Department of Health, Education, and Welfare, 1962. 15 p.
41. _____. Design of Laboratory Facilities: A Classified List of Selected References, Supplement I. Bethesda, Md.: Research Facilities Planning Branch, Division of Research Services, National Institutes of Health, Public Health Service, U. S. Department of Health, Education, and Welfare, July 1963. 6 p.
42. Freese, Gordon P. Exploring the Possibilities of Teaching by Closed-Circuit Television. College and University Business, 24:2, 24-26, February 1958.
43. General Electric Research Laboratory. Architectural Record, 108:1, 124-127, July 1950.
44. General Motors Technical Center. Architectural Forum, 95:111, November 1951.
45. Grinstead, N. B. Applied Arts and Science Building at Central Missouri State College. Industrial Arts and Vocational Education, 49:52-58, March 1960.
46. Haines, Charles. Planning the Scientific Laboratory. Architectural Record, 108: 107-123, July 1950.
47. Halstead, Edward Grey. Laboratory Equipment. Progressive Architecture, 37:9, 126-137, September 1956.
48. Hauf, Harold D., and others. New Spaces for Learning--Designing College Facilities to Utilize Instructional Aids and Media, Report of a Research Project. Troy, N.Y.: School of Architecture, Rensselaer Polytechnic Institute, June 1, 1961. 134 p.
49. Heavy Ion Accelerator Building. In Buildings for Research. New York: F. W. Dodge Corporation, 1958. p. 59-61.
50. Hengst, Herbert R., ed. The Planning and Utilization of Instructional Facilities, Conference Proceedings. East Lansing, Mich.: Center for the Study of Higher Education, Michigan State University, August 8-9, 1960. 156 p.
51. Hertenstein, Wesley. Laboratory Furniture Standard Units, California Institute of Technology. In Minutes of the Forty-Eighth Annual Meeting (July 3-7, 1961). Corvallis, Oreg.: National Association of Physical Plant Administrators of Universities and Colleges, Oregon State University. p. 191-196.
52. Hickman, Roger W., Edwin C. Kemble, and Leonard K. Nash. Allston Burr Lecture Hall, Harvard University. American Journal of Physics, 22:486-489, October 1954.
53. Hurd, Paul DeH. Science Facilities for the Modern High School. (Educational Monograph No. 2, School of Education.) Stanford, Calif.: Stanford University Press, 1954. 52 p.
54. _____. Science: Instructional Trends. In New Dimensions in Junior College Planning. Stanford, Calif.: School Planning Laboratory, School of Education, Stanford University, 1958. p. 86-87.
55. Hyde, Bryden B. Housing the Physical Sciences. College and University Business, 23:2, 35-36, August 1957.

56. King, Sol. Life Sciences Building Accommodates People and Animals--Separately. College and University Business, 34:6, 52-56, June 1963.
57. Kohler, O. C., and D. W. Orr. Housing the Chemistry Department at Mount Holyoke. American School and University, 28:391-394, 1956-1957.
58. Kosoloski, John E. Planetaria Data. Harrisburg, Pa.: Bureau of Curriculum Services, Department of Public Instruction, Commonwealth of Pennsylvania, July 1960. 13 p. (Mimeographed)
59. Laboratory Design for Handling Radioactive Materials. (Research Conference Report No. 3.) Washington: Building Research Advisory Board, National Research Council-National Academy of Sciences, 1952. 140 p.
60. Laboratory Exhaust Hood Ventilation Standards for the University of Michigan. Ann Arbor: University of Michigan, 1961. 25 p.
61. Laboratory Service Piping. In Time-Saver Standards. (Edition No. 2.) New York: F. W. Dodge Corporation, 1950. p. 788-789.
62. Leonard, J. C. New Natural Science Building. American School and University, 22:141-144, 1950-1951.
63. Lewis, Charles A., and Alexander F. Cipa. Easy to Use, Easy to Maintain--That's Wayne University's Science Hall. College and University Business, 9:6, 32-55, October 1950.
64. Lewis, Harry F., ed. Laboratory Planning for Chemistry and Chemical Engineering. New York: The Committee on Design, Construction, and Equipment of Laboratories, Division of Chemistry and Chemical Technology, National Research Council, Reinhold Publishing Corporation, 1962. 544 p.
65. Lewis, H. F. General Problems of Laboratory Design. American School and University, 22:309-312, 1950-1951.
66. London and Home Counties Branch of the Institute of Physics. The Design of Physics Research Laboratories. New York: Reinhold Publishing Corporation, 1959. 108 p.
67. Ludlum, R. P. Student-Constructed Science Building. Journal of Chemical Education, 34:506, October 1957.
68. Mackintosh, A. D. Architectural Problems in Atomic Labs. In Buildings for Research. New York: F. W. Dodge Corporation, 1958. p. 37-42.
69. Martin, Deac. Lighting the Laboratory. College and University Business, 14:1, 46-47, January 1953.
70. Maurer, H. What the Chairman of a Science Building Project Should Know. American School and University, 22:119-122, 1950-1951.
71. Meissner, W. A. Laboratory Planning--Bibliography. (References 1944-1955.) Boston, Mass.: New England Baptist Hospital, 1956. 4 p.
72. More Harvard: A Flexible Laboratory Building to Meet the Changing Needs of Science. Architectural Forum, 98:126-127, June 1953.
73. Morgan, Dane D. Science Building for a Large Junior College. College and University Business, 21:3, 38-39, September 1956.

74. Museum in the Corridor Proves Two-Way Asset. College and University Business, 33:1, 39, July 1962.
75. National Education Association. Mathematics and Science Teaching and Facilities. Washington: The Association, Research Division, 1959. 49 p.
76. The National Science Teachers Association. College Facilities for the Education of Science Teachers. In School Facilities for Science Instruction. Washington: The Association, 1954. p. 199-216.
77. New Physical Sciences Building. University of Kansas Alumni Magazine, 53:8-9, 12-14, October 1954.
78. News...Research Grant from E.F.L. College and University Business, 32:1, 62, January 1962.
79. Nuclear Science Center. Overview, 1:58, October 1960.
80. Nuclear Studies Laboratory. Progressive Architecture, 33:79-83, December 1952.
81. Oetjen, Robert A., and John N. Cooper. The New Physics Building at the Ohio State University. American Journal of Physics, 21:221-227, March 1953.
82. Palmer, R. Ronald (director). Project on Design of Physics Buildings: Selected Reprints of Articles on Physics Buildings. New York: American Institute of Physics, June 1959. 183 p.
83. Palmer, R. Ronald, and William Maxwell Rice. Modern Physics Buildings: Design and Function. New York: Reinhold Publishing Corporation, 1961. 324 p.
84. Paseur, C. Herbert. Science Hall Carries Utility Services in Its Walls. College and University Business, 34:6, 48-51, June 1963.
85. Peterson, J. E., and J. A. Peay. Laboratory Fume Hoods. Air Conditioning, Heating, and Ventilating, 60:5, 63-72, May 1963.
86. Pheonix Project. In "College Buildings." Architectural Record, 117:1, 136, January 1955.
87. Pierce, George F., Jr. Here is a Practical Approach to Laboratory Design. College and University Business, 26:3, 40-43, March 1959.
88. Poole, Lynn. Science Via Television. Baltimore, Md.: Johns Hopkins Press, 1950. 198 p.
89. Proposed Physics Building for Yale University. Architectural Record, 114:3, 141-147, September 1953.
90. Radiation Research Goes Underground in Boston. Progressive Architecture, 43:12, 44, December 1962.
91. Radiochemistry Building. In Buildings for Research. New York: F. W. Dodge Corporation, 1958. p. 49-51.
92. Railsback, G. L., and H. M. Skadeland. No Idle Space with This Multiple Lab. College and University Business, 27:1, 25-28, July 1959.
93. Rasmussen, H. B., and others. Symposium on College and University Chemistry Equipment and Supplies. Journal of Chemical Education, 27:385-398, July 1950.

94. Rice, William M., and Elisabeth K. Thompson. The Design of Particle Acceleration Buildings. In Buildings for Research. New York: F. W. Dodge Corporation, 1958. p. 52-58.
95. Richardson, John S., ed. School Facilities for Science Instruction. Washington: The National Science Teachers Association, 1954. p. 199-257.
96. Richardson, John S., and G. P. Cahoon. Methods and Materials for Teaching General and Physical Sciences. New York: McGraw-Hill Book Company, Inc., 1951. 485 p.
97. Richardson, John S., G. P. Cahoon, and Ralph W. Lefler. Facilities for Science Teacher Education. American School and University, 24:299-308, 1952-1953.
98. Robertson, G. R. Chemistry at UCLA. Journal of Chemical Education, 30:526-529, October 1953.
99. _____. Design of a Chemistry Lecture Room. Journal of Chemical Education, 36:197-201, April 1959.
100. _____. New Fundamental Designs for Academic Chemistry Buildings. Journal of Chemical Education, 38:474-477, September 1961.
101. Santoro, Louis L. Physics and Electrical Engineering Research Building. American School and University, 30:359-366, 1958-1959.
102. Schwehr, Frederick E. Program Statement for a New Science Building at Wisconsin State College, La Crosse. Madison, Wis.: Board of Regents of State Colleges, The State of Wisconsin, n.d. 43 p. (Dittoed)
103. Science and Pharmacy Buildings for Drake University. Progressive Architecture, 31:11, 65-89, November 1950.
104. Science Building, Bemidji State College. St. Paul, Minn.: Department of Administration, State College Board, November 15, 1959. 57 p.
105. Science Buildings Key the New Campus. Architectural Record, 122:2, 170-171, August 1957.
106. Scientific Apparatus Makers Association. Here's the Simple, Safe, Sure Way to Plan and Purchase Laboratory Facilities. Chicago: The Association, 1951. 15 p.
107. Scientists Build to a Human Scale. Overview, 1:60-61, September 1960.
108. Scully, Mark F., and Francis G. Cornell. Obsolescence and Modernity in College Plant Facilities. American School and University, 31:47-50, 1959-1960.
109. Sell, J. C. Planning the Electron Microscopy Suite. Journal of the American Institute of Architects, 39:5, 83-87, May 1963.
110. Services the Keynote to New Laboratory Design. Industrial Architecture, 5:4, 240-244, April 1962.
111. Sharefkin, David M. How to Dispose of Chemical Wastes. College and University Business, 30:6, 43-44, June 1961.
112. Stranathan, J. D., and R. Q. Brewster. Science Building at the University of Kansas. American School and University, 26:373-378, 1954-1955.

113. Swinburne, Herbert H. How La Salle College Set Its Site for a New Science Building. College and University Business, 32:2, 57-58, February 1962.
114. Taylor, Harold. New Thinking on College Buildings. Architectural Forum, 98:116-145, June 1953.
115. Tentative Minimum Standards: Wood Laboratory Equipment. Chicago, Ill.: Scientific Apparatus Makers Association, January 1, 1962. 23 p.
116. Thompson, Elisabeth K. For an Architecture of Nuclear Buildings. In Buildings for Research. New York: F. W. Dodge Corporation, 1958. p. 62.
117. Viles, Frederick J., Jr. Design and Uses of Laboratory Hoods. College and University Business, 22:6, 41-44, June 1957.
118. Walker, P. J. Laboratory Air Supply Systems. American Society of Heating, Refrigeration, and Air Engineers Journal, 5:3, 47-48, March 1963.
119. Ward, Donald R. Design of Laboratories for Safe Use of Radioisotopes. Oak Ridge, Tenn.: Advisory Field Service Branch, Isotope Division, Atomic Energy Commission, November 1952. 48 p.
120. Watson, R. B. Addition to the Physics Building at the University of Texas. American Journal of Physics, 29:50-56, January 1961.
121. Watts, Ralph J. Science Building Remodeled. College and University Business, 8:2, 28-30, February 1950.
122. What They're Building: Even the Present Is Only Prologue. College and University Business, 34:6, 59-61, June 1963.
123. Wiegand, W. H. Planning the Physical Plant for Teaching by Television. College and University Business, 25:3, 35-38, September 1958.
124. Yarbrough, David B. The Team Approach to Planning a College Science Building. (Investigation No. 5.) Houston, Tex.: Caudill, Rowlett and Scott, September 1960. 48 p.

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